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Nagasaka et al.

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(54) **EXPOSURE APPARATUS, EXPOSURE METHOD, AND METHOD FOR PRODUCING DEVICE**

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See application file for complete search history.

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(56)

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 104 days.

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Related U.S. Application Data

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(57)

ABSTRACT

A liquid immersion exposure apparatus includes a nozzle member having a recovery port and an opening via which an exposure beam passes. A projection system includes a first element closest to an image surface and a second element which is second closest to the image surface. The first element has a first surface facing the image surface, a second surface facing a lower surface of the second element, an inclined outer surface extending upwardly and radially outwardly from the first surface and facing an inner surface of the nozzle member, and a flange portion provided above the inclined outer surface. A support member supports the flange portion of the first element. A substrate stage has a holder for holding a substrate to be exposed and moves the substrate below and relative to the nozzle member and the projection system.

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G03B 27/68 (2006.01)

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(58) **Field of Classification Search**
CPC G03F 7/20341; G03F 7/70341; G03F 7/70916; G03F 7/70825; G03F 7/70833

29 Claims, 15 Drawing Sheets

